#### **Claim Listing**

### 1. (original) A compound of formula (I),

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

A is a monocyclic or bicyclic ring selected from the group consisting of aryl, cycloalkyl, cycloalkenyl, heteroaryl and heterocycle;

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bN$ C(O)alkyl-,  $R_aR_bN$ C(O)Oalkyl-,  $R_aR_bN$ C(O)NRcalkyl-,  $R_fR_gC$ =N- and  $R_k$ O-, wherein  $R^1$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^2$  and  $R^3$  are independently selected from the group consisting of hydrogen, alkenyl, alkynyl, alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

alternatively,  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ ;

R<sup>4</sup> is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy, R<sub>a</sub>R<sub>b</sub>N-,

N<sub>3</sub>-, R<sub>e</sub>S-, wherein R<sup>4</sup> is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -, R

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a \ and \ R_b, \ at each occurrence, \ are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl, <math>R_cR_dN-$ ,  $R_kO-$ .  $R_kOalkyl-$ ,  $R_cR_dNalkyl-$ ,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2-$ ,  $R_cSO_2$ alkyl-,  $R_cC(O)-$ ,  $R_cC(O)$ alkyl-,  $R_cOC(O)-$ ,  $R_cOC(O)$ alkyl-,  $R_cR_dNalkylC(O)-$ ,  $R_cR_dNC(O)-$ ,  $R_cR_dNC(O)$ alkyl-, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR\_c), -(alkyl)(NR\_cR\_d), -SR\_c, -S(O)R\_c, -S(O)\_2R\_c, -OR\_c, -N(R\_c)(R\_d), -C(O)R\_c, -C(O)OR\_c and -C(O)NR\_cR\_d;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>),

 $-(alkyl)(NR_cR_d), -alkylSO_2NR_cR_d, -alkylC(O)NR_cR_d, -SR_c, -S(O)R_c, -S(O)_2R_c, -OR_c, -N(R_c)(R_d), -C(O)R_c, -C(O)OR_c, -C(O)NR_cR_d; \\$ 

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -alkylN(R<sub>e</sub>)C(O)OR<sub>f</sub>, -alkylN(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

Re is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a threeto seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently

selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, –OH, -O(alkyl), -NH<sub>2</sub>, -N(H)(alkyl), -N(alkyl)<sub>2</sub>, -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl, -alkylNH<sub>2</sub>, -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl), -alkylSO<sub>2</sub>alkyl, -alkylN(alkyl)<sub>2</sub>, -N(H)C(O)NH<sub>2</sub>, -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl, -C(O)NH<sub>2</sub>, -C(O)NH<sub>2</sub>, -C(O)N(H)(alkyl), and -C(O)N(alkyl)<sub>2</sub>;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ -,

m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3, or 4; with the proviso that when A is a monocyclic ring other than

and  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl;

and with the further proviso that when A is

and  $R^4$  is hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, unsubstituted alkyl, halo or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,

 $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, arylalkenyl, arylalkenyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 2. **(original)** The compound of claim 1 wherein A is a monocyclic ring selected from the group consisting of aryl and heteroaryl.
  - 3. (original) The compound of claim 2 wherein

A is aryl; and

R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of phenyl, pyridyl, pyrimidinyl, pyridazinyl, thienyl, furanyl, pyrazolyl, oxazolyl, thiazolyl, imidazolyl, isoxazolyl, isothiazolyl, triazolyl, thiadiazolyl, tetrazolyl, cyclopentyl and cyclohexyl.

- 4. (original) The compound of claim 3 wherein A is phenyl.
- 5. (original) The compound of claim 4 wherein R<sub>2</sub> and R<sub>3</sub> together with the carbon atoms to which they are attached form a pyridyl ring.
  - 6. (original) The compound of claim 1 of formula (II)

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, formylalkyl, haloalkoxyalkyl, cycloalkyl, heteroarylalkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN-$ ,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bN$ 

with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>e</sub>), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>e</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>e</sub>;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_a$ 

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cCO$ 0,  $R_cCO$ 1,  $R_cCO$ 2,  $R_cCO$ 2,  $R_cCO$ 3,  $R_cCO$ 4,  $R_cCO$ 5,  $R_cCO$ 6,  $R_cCO$ 6,  $R_cCO$ 8, and  $R_cCO$ 8, are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $R_c$ 6, -(alkyl)( $R_c$ 7, -S( $R_c$ 8, -R( $R_c$ 8, -R( $R_c$ 9), -R( $R_c$ 8, -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R( $R_c$ 9), -R( $R_c$ 9), -R( $R_c$ 9, -R( $R_c$ 9), -R(

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ 

m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 7. (original) The compound of claim 6 wherein  $R^4$  is hydroxy.
- 8. **(original)** The compound of claim 7 wherein R<sup>1</sup> is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, cycloalkyl, formylalkyl,

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one;

haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ c(O)alkyl-,  $R_fR_gC$ =N- and  $R_k$ O-.

- 9. **(original)** The compound of claim 5 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:
- 1-[2-(1-cyclohexen-1-yl)ethyl]-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- ethyl [3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-2-oxo-1,8-naphthyridin-1(2H)-yl]acetate;
- 1-(3-anilinopropyl)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 3-[3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-2-oxo-1,8-naphthyridin-1(2H)-yl] propanal;
- 1-[3-(dimethylamino)propyl]-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 1-{3-[[2-(dimethylamino)ethyl](methyl)amino]propyl}-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 1-(2-aminoethyl)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 1-[3-(diethylamino)propyl]-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 1-(benzyloxy)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one;
- 1-(benzyloxy)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1,8-naphthyridin-2(1H)-one
- $3\hbox{-}(1,1\hbox{-}dioxido\hbox{-}4H\hbox{-}1,2,4\hbox{-}benzothiadiazin\hbox{-}3-yl)\hbox{-}4-hydroxy\hbox{-}1\hbox{-}isobutoxy\hbox{-}1,8-naphthyridin\hbox{-}2(1H)\hbox{-}one;$ 
  - 1-benzyl-4-chloro-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;
  - 1-butyl-4-chloro-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;
  - 4-amino-1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;
  - 1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-(methylamino)-1,8-naphthyridin-2(1H)-

1-butyl-4-(dimethylamino)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;

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1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydrazino-1,8-naphthyridin-2(1H)-one; 4-azido-1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one; 1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-[(2-hydroxyethyl)amino]-1,8-naphthyridin-2(1H)-one;
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N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro-1,8-naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]-N-(2-phenylethyl)sulfamide;

benzyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]sulfamide;

benzyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-propyldiazathiane-1-carboxylate 2,2-dioxide;

N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]-N-propylsulfamide;

methyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

allyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

2-propynyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

2-cyanoethyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

2-(trimethylsilyl)ethyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

methyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

benzyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-methyldiazathiane-1-carboxylate 2,2-dioxide;

N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]-N-methylsulfamide;

2-aminoethyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

 $\textit{N-cyclopentyl-N'-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8])} \\ \textbf{naphthyridin-3-yl)-1,1-naphthyridin-3-yl-1,1-naphthyridin-3-yl-1,1-naphthyridin-3-yl-1,1-naphthyridin-3-yl-1,1-naphthyridin-3-yl-1,1-naphthyridin-3-yl-1,$ 

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dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]sulfamide;

N-cyclobutyl-N'-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]sulfamide;

N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]-N-(4-piperidinyl)sulfamide;

N-(2-hydroxyethyl)-N'-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]sulfamide;

3-[({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)amino]propanamide;

*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-azetidinesulfonamide;

3-hydroxy-*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-azetidinesulfonamide;

3-amino-*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-pyrrolidinesulfonamide;

*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-piperidinesulfonamide;

*N*-benzyl-*N*'-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]sulfamide;

ethyl 3-[({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)amino]benzoate;

3-[({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)amino]benzoic acid;

3-[({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)amino]benzamide;

N-(2-aminoethyl)-N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]sulfamide;

ethyl 1-({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)-3-piperidinecarboxylate;

methyl (2S)-1-({[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]amino}sulfonyl)-2-pyrrolidinecarboxylate;

N-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]-1-pyrrolidinesulfonamide;

3-hydroxy-*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]-1-piperidinesulfonamide; and

*N*-(2-furylmethyl)-3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro[1,8]naphthyridin-3-yl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxamide 2,2-dioxide.

- 10. (original) The compound of claim 4 wherein R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached form a thienyl ring.
  - 11. (original) The compound of claim 1 of formula (III):

$$(\mathbb{R}^6)_m \xrightarrow{S} (\mathbb{R}^5)_n$$

$$(\mathbb{R}^6)_m \xrightarrow{S} (\mathbb{III})$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxyarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfonylalkyl, alkylsulfonylalkyl, alkylsulfonylalkyl, arylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl) alkyl, cycloalkyl) alkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bNalkyl$ -,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ NRcalkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN_7$ ,  $N_3$ -,  $R_eS_7$ , wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

R<sup>5</sup> is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl,

nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)2 $R_c$ , -OO2, - $OR_c$ , -N(O0) $R_c$ , -C(O0) $R_c$ , -C(O0) $R_c$ , and -C(O0) $R_c$ Rd;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c \ and \ R_d, \ at each \ occurrence, \ are independently selected \ from the group \ consisting \ of \ hydrogen,$   $-NR_fR_h, \ -CO(R_f), \ -SR_f, \ -SO_2R_f, \ -C(O)NR_fR_h, \ -SO_2NR_fR_h, \ -C(O)OR_f, \ alkenyl, \ alkynyl, \ cycloalkyl, \ cycloalkyl, \ cycloalkenyl, \ cycloalkenyl, \ arylalkyl, \ haloalkyl, \ heteroaryl,$ 

heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ 

m is 0, 1, or 2; and n is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 12. (original) The compound of claim 11 wherein R<sup>4</sup> is hydroxy.
- 13. **(original)** The compound of claim 12 wherein  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.
- 14. **(original)** The compound of claim 10 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:

4-amino-6-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-b]pyridin-5(4H)-one;

- 6-(1,1-Dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-(isobutylamino)thieno[3,2-*b*] pyridin-5(4*H*)-one;
  - 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-{[(3*S*)-3-methylcyclopentyl]amino}

# thieno[3,2-b]pyridin-5(4H)-one;

- 4-{[1-cyclopropylethyl]amino}-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno [3,2-*b*]pyridin-5(4*H*)-one;
- 4-(butylamino)-6-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-b]pyridin-5(4H)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-[(2-ethylbutyl)amino]-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-(pentylamino)thieno[3,2-b]pyridin-5(4H)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(3-methylbutyl)amino]thieno[3,2-*b*] pyridin-5(4*H*)-one;
- 4-[(3,3-dimethylbutyl)amino]-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(3-methylbenzyl)amino]thieno[3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(2-methylbenzyl)amino]thieno[3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(4-methylbenzyl)amino]thieno[3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(3-methylbut-2-enyl)amino]thieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-(propylamino)thieno[3,2-b]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(pyridin-4-ylmethyl)amino]thieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(pyridin-3-ylmethyl)amino]thieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(pyridin-2-ylmethyl)amino]thieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(3-methoxybenzyl)amino]thieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-[(3-furylmethyl)amino]-7-hydroxythieno[3,2-*b*]pyridin-5(4*H*)-one;

- 3-({[6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-5-oxothieno[3,2-*b*]pyridin-4(5*H*)-yl]amino}methyl)benzonitrile;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(thien-3-ylmethyl)amino]thieno[3,2-*b*]pyridin-5(4*H*)-one;
- 4-(cyclobutylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- 4-(benzylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*]pyridin-5(4*H*)-one;
- 4-[(cyclohexylmethyl)amino]-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno [3,2-*b*]pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-[(1,3-thiazol-5-ylmethyl)amino] thieno[3,2-*b*]pyridin-5(4*H*)-one;
- 4-[(3-bromobenzyl)amino]-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*]pyridin-5(4*H*)-one;
- 4-(cyclohexylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- 4-(cyclopentylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- 4-(cycloheptylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- $6-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin-3-yl})-7-\text{hydroxy-4-}\{[(1R,3S)-3-\text{methylcyclohexyl}]$  aminothieno[3,2-b]pyridin-5(4H)-one;
- $6-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-7-\text{hydroxy}-4-\{[(1R,3R)-3-\text{methylcyclohexyl}] amino\}$ thieno[3,2-b]pyridin-5(4H)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-[(1-ethylpropyl)amino]-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
- 6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxy-4-{[1-phenylethyl]amino}thieno[3,2-*b*] pyridin-5(4*H*)-one;
- $6-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin-3-yl})-7-\text{hydroxy-4-}\{[(1R)-1-\text{methylbutyl}]\text{aminothieno} [3,2-b]\text{pyridin-5}(4H)-\text{one};$
- 4-(cyclobutylamino)-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno[3,2-*b*] pyridin-5(4*H*)-one;
  - 4-[(cyclopropylmethyl)amino]-6-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-7-hydroxythieno

## [3,2-b]pyridin-5(4H)-one; and

2-({3-[4-(cyclohexylamino)-7-hydroxy-5-oxo-4,5-dihydrothieno[3,2-*b*]pyridin-6-yl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}oxy)acetamide.

### 15. (original) The compound of claim 1 of formula (IV)

$$\mathbb{R}^{4} \qquad \mathbb{N} \qquad \mathbb{N$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, alkynyl, aryl, arylalkenyl, arylalkenyl, arylsulfanylalkyl, arylsulfonylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkoxyalkyl, heteroarylalkenyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ NRcalkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, aryla alkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_aC$ 

of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR $_{\rm c}$ ), -(alkyl)(NR $_{\rm c}$ R $_{\rm d}$ ), -SR $_{\rm c}$ , -S(O)R $_{\rm c}$ , -S(O) $_{\rm 2}$ R $_{\rm c}$ , -OR $_{\rm c}$ , -N(R $_{\rm c}$ )(R $_{\rm d}$ ), -C(O)R $_{\rm c}$ , -C(O)OR $_{\rm c}$  and -C(O)NR $_{\rm c}$ R $_{\rm d}$ ;

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)- $R_c$ , -S(O)- $R_c$ , -S(O)- $R_c$ , -OR, -N( $R_c$ )( $R_c$ ), -C(O)OR, -C(O)OR, and -C(O)NR, R, ;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>,

 $-C(O)OR_f, -C(O)NR_fR_h, -C(O)N(H)NR_fR_h, -N(R_e)C(O)OR_f, -N(R_e)SO_2NR_fR_h, -N(R_e)C(O)NR_fR_h, -1kylN(R_e)C(O)OR_f, -1kylN(R_e)SO_2NR_fR_h, and -1kylN(R_e)C(O)NR_fR_h;$ 

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)alkyl,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, –OH, -O(alkyl), -N(H)(alkyl), -N(alkyl), -S(alkyl), -S(o)(alkyl), -alkyl-OH, -alkyl-O-alkyl, -alkylNH2, -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl), -alkylSO2alkyl, -alkylN(alkyl)2, -N(H)C(O)NH2, -C(O)OH, -C(O)O(alkyl), -C(O)NH2, -C(O)NH2, -C(O)N(H)(alkyl), and -C(O)N(alkyl)2;

R<sub>k</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl, R<sub>a</sub>R<sub>b</sub>Nalkyl-, R<sub>a</sub>Oalkyl-, R<sub>a</sub>R<sub>b</sub>NC(O)-, R<sub>a</sub>SO<sub>2</sub>-, R<sub>a</sub>Salkyl-, R<sub>a</sub>(O)Salkyl-, R<sub>a</sub>SO<sub>2</sub>alkyl-, R<sub>a</sub>OC(O)-,

 $R_aOC(O)$ alkyl-,  $R_aC(O)$ -,  $R_aC(O)$ alkyl-, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 16. (original) The compound of claim 15 wherein R<sup>4</sup> is hydroxy.
- 17. (original) The compound of claim 16 wherein  $R^1$  is selected from the group consisting of  $R_aR_bN$ -,  $R_fR_gC$ =N- and  $R_kO$ -.
- 18. **(original)** The compound of claim 15 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:
- 3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[(1E)-phenylmethylene]amino}-2(1H)-quinolinone;

1-amino-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-2(1H)-quinolinone;

3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-propoxyquinolin-2(1*H*)-one;

1-(benzylamino)-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-vl)-4-hydroxyquinolin-2(1*H*)-one;

1-amino-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1*H*)-one;

- 3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(1-propylbutyl)amino]quinolin-2(1H)-one;
  - 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-(isobutylamino)quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-1-[(1-ethylpropyl)amino]-4-hydroxyquinolin-2(1*H*)-one;
  - 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-(pentylamino)quinolin-2(1*H*)-one;

- 1-(cyclohexylamino)-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[(2-methyl-1,3-thiazol-4-yl)methyl] amino}quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-(isopropylamino)quinolin-2(1*H*)-one;
- 1-(cyclobutylamino)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1H)-one;
- 1-(cyclopentylamino)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1H)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[3-methylcyclopentyl]amino} quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-(tetrahydro-2*H*-pyran-4-ylamino) quinolin-2(1*H*)-one;
- $3-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-1-\{[1-\text{ethylbutyl}]\text{amino}\}-4-\text{hydroxyquinolin-}2(1H)-\text{one};$
- $3-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-4-\text{hydroxy}-1-\{[(3R)-3-\text{methylcyclohexyl}]\text{amino}\}$  quinolin-2(1*H*)-one;
- 1-(cycloheptylamino)-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1H)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-1-{[3-ethylcyclopentyl]amino}-4-hydroxyquinolin-2(1*H*)-one;
- $3-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-4-\text{hydroxy}-1-\{[1-\text{isopropylbutyl}]\text{amino}\}\text{quinolin}-2(1H)-\text{one};$
- $3-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-4-\text{hydroxy}-1-\{[1-\text{phenylethyl}]\text{amino}\}\text{quinolin}-2(1H)-\text{one};$
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[1-thien-3-ylethyl]amino}quinolin-2(1*H*)-one;
- 1-{[3,5-dimethylcyclohexyl]amino}-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(4-isopropylcyclohexyl)amino] quinolin-2(1*H*)-one;
  - 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[1,2,3,4-tetrahydronaphthalen-2-yl

## amino]quinolin-2(1*H*)-one;

- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[3-(trifluoromethyl)cyclohexyl] amino}quinolin-2(1*H*)-one;
  - 1-(butylamino)-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(3-methylbutyl)amino]quinolin-2(1H)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-1-[(3-furylmethyl)amino]-4-hydroxyquinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-1-[(2-furylmethyl)amino]-4-hydroxyquinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(thien-2-ylmethyl)amino]quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(1,3-thiazol-2-ylmethyl)amino] quinolin-2(1*H*)-one;
- $3-(1,1-\text{dioxido}-4H-1,2,4-\text{benzothiadiazin}-3-\text{yl})-1-\{[(2R)-2-\text{ethyl}-3-\text{methylbutyl}]\text{amino}\}-4-\text{hydroxyquinolin}-2(1H)-\text{one};$
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(4-methylbenzyl)amino]quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(3-methylbenzyl)amino]quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(2-methylbenzyl)amino]quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-{[(3-methylthien-2-yl)methyl] amino}quinolin-2(1*H*)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(4-methoxybenzyl)amino]quinolin-2(1*H*)-one;
- $1-\{[(5-\text{chlorothien-}2-\text{yl})\text{methyl}]\text{amino}\}-3-(1,1-\text{dioxido-}4H-1,2,4-\text{benzothiadiazin-}3-\text{yl})-4-\text{hydroxy}$  quinolin-2(1*H*)-one;
- 1-{[(2-chloro-1,3-thiazol-5-yl)methyl]amino}-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1*H*)-one;
- 1-[(3-bromobenzyl)amino]-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1H)-one;
  - 1-[(4-bromobenzyl)amino]-3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-

## 2(1H)-one;

- 1-[(2-bromobenzyl)amino]-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxyquinolin-2(1H)-one;
- 3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-[(pyridin-3-ylmethyl)amino] quinolin-2(1*H*)-one;
- 3-({[3-(1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-2-oxoquinolin-1(2*H*)-yl]amino} methyl)benzonitrile;
- 2-({3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-({3-[1-(cyclopentylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-({3-[1-(cyclohexylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl)oxy]acetamide;
- 2-({3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4*H*-1,2-benzothiazin-7-yl}oxy)acetamide;
- 2-({3-[1-(butylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-[(3-{4-hydroxy-1-[(3-methylbutyl)amino]-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl)oxy]acetamide;
- 3-(8-amino-7-hydroxy-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-1-(isobutylamino) quinolin-2(1*H*)-one;
- 2-({8-amino-3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-({3-[4-hydroxy-2-oxo-1-(propylamino)-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}oxy)acetamide;
- 2-({3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}oxy)propanamide;
- 2-({3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}oxy)butanamide;
- 8-amino-3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl methanesulfonate;

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U.S. Patent Application No. 10/699,513
Response to April 10, 2007 Office action
May 10, 2007
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- 1-[(cyclopropylmethyl)amino]-4-hydroxy-3-(7-hydroxy-8-nitro-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-3-yl)quinolin-2(1*H*)-one;
- $3-(7-\{2-[(3S)-3-aminopyrrolidin-1-yl]-2-oxoethoxy\}-1,1-dioxido-4$ *H*-1,2,4-benzothiadiazin-3-yl)-1-[(cyclopropylmethyl)amino]-4-hydroxyquinolin-2(1*H*)-one;
- 2-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)oxy]-N-ethylacetamide;
- [(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)oxy]acetic acid;
- 3-{7-[2-(3-aminopyrrolidin-1-yl)-2-oxoethoxy]-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl}-1-[(cyclopropylmethyl)amino]-4-hydroxyquinolin-2(1H)-one;
- 3-(8-amino-7-hydroxy-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1-[(cyclopropylmethyl)amino]-4-hydroxyquinolin-2(1H)-one;
- 2-[(8-amino-3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl)oxy]acetamide;
- [(8-amino-3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)oxy]acetonitrile;
- 1-[(cyclopropylmethyl)amino]-4-hydroxy-3-[7-(2-hydroxyethoxy)-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl]quinolin-2(1H)-one;
- 1-[(cyclopropylmethyl)amino]-4-hydroxy-3-[7-(1H-imidazol-2-ylmethoxy)-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl]quinolin-2(1H)-one;
- 1-[(cyclopropylmethyl)amino]-3-[1,1-dioxido-7-(1,3-thiazol-2-ylmethoxy)-4H-1,2,4-benzothiadiazin-3-yl]-4-hydroxyquinolin-2(1H)-one;
- 1-[(cyclopropylmethyl)amino]-3-[7-(4,5-dihydro-1H-imidazol-2-ylmethoxy)-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl]-4-hydroxyquinolin-2(1H)-one;
- 2-{[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)oxy]methyl}-1,3-thiazole-4-carbonitrile;
- 3-[7-(2-aminoethoxy)-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl]-1-[(cyclopropylmethyl)amino] -4-hydroxyquinolin-2(1H)-one;
- N-{2-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)oxy]ethyl}methanesulfonamide;
- 3-{7-[(5-bromopyridin-2-yl)oxy]-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl}-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
  - 4-hydroxy-1-(isobutylamino)-3-{7-[(3-nitropyridin-2-yl)oxy]-1,1-dioxido-4H-1,2,4-

benzothiadiazin-3-yl}quinolin-2(1H)-one;

tert-butyl 3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-ylcarbamate;

3-(7-amino-1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1-[(cyclopropylmethyl)amino]-4-hydroxyquinolin-2(1H)-one;

methyl 2-chloro-6-({3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}oxy)isonicotinate;

N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl} methanesulfonamide;

*N*-(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl)methanesulfonamide;

N-(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)methanesulfonamide;

2-{[3-(1-amino-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]oxy}acetamide;

*N*-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}ethanesulfonamide;

benzyl 3-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}diazathiane-1-carboxylate 2,2-dioxide;

N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}-N-methylsulfamide; and

N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}sulfamide.

#### 19. (original) The compound of claim 1 wherein:

A is heteroaryl; and

R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of phenyl, pyridyl, pyrimidinyl, pyridazinyl, thienyl, furanyl, pyrrolyl, pyrazolyl, oxazolyl, thiazolyl, imidazolyl, isoxazolyl, isothiazolyl, triazolyl, thiadiazolyl, tetrazolyl, cyclopentyl and cyclohexyl.

20. (original) The compound of claim 19 wherein A is thienyl.

- 21. (original) The compound of claim 20 wherein R<sup>2</sup> and R<sup>3</sup> together with the carbon atoms to which they are attached form a phenyl ring.
  - 22. (original) The compound of claim 1 of formula (Va)

$$\mathbb{R}^{4} \qquad \mathbb{N} \qquad \mathbb{N}^{5}$$

$$\mathbb{R}^{6} \qquad \mathbb{N} \qquad \mathbb{N}$$

$$\mathbb{N} \qquad \mathbb{N}$$

$$\mathbb{$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfonylalkyl, alkylsulfonylalkyl, arylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, haloalkoxyalkyl, haloalkoxyalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN-$ ,  $R_aR_bNalkyl-$ ,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ alkyl-, calkyl-, calkyl-

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, aryla aryla aryla aryla aryla aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -,  $R_aR_bNSO_2N($ 

arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $NR_cR_d$ ), - $SR_c$ , - $S(O)R_c$ , - $S(O)_2R_c$ , - $OR_c$ , - $OR_c$ , - $OR_c$ ), - $OR_c$ 

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)R_a$ , - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), wherein each  $OR_k$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $OR_$ 

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)-, -S(O)-, -S(O)-, -OR, -N(O)-, -C(O)-, -

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SOR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>,

 $-alkylN(R_e)C(O)OR_f, -alkylN(R_e)SO_2NR_fR_h, \ and \ -alkylN(R_e)C(O)NR_fR_h; \\$ 

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_{\rm f}, R_{\rm g}$  and  $R_{\rm h}$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_{\rm f}, R_{\rm g}$  and  $R_{\rm h}$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)alkyl,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_{\rm f}$  and  $R_{\rm g}$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl, -alkyl-OH, -alkyl-O

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSo_2$ -,  $R_aSo_2$ -,  $R_aSo_2$ -,  $R_aSo_2$ -,  $R_aSo_2$ -,  $R_aSo_3$ -,

independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>; and

m is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 23. (original) The compound of claim 22 wherein R<sup>4</sup> is hydroxy.
- 24. **(original)** The compound of claim 23 wherein  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.
  - 25. (original) The compound of claim 1 of formula (Vb)

$$\begin{array}{c|c} & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

R<sup>1</sup> is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl)alkenyl, (cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle,

heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ NR<sub>c</sub>alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>e</sub>), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>e</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>e</sub>;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)R_a$ , - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), wherein each  $OR_k$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $OR_$ 

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heteroarylalkyl, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ alkyl-,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,

haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $NR_cR_d$ ), - $SR_c$ , - $SO()_2R_c$ , -S

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen,  $-NR_fR_h$ ,  $-OR_f$ ,  $-CO(R_f)$ ,  $-SR_f$ ,  $-SO_2R_f$ ,  $-C(O)NR_fR_h$ ,  $-SO_2NR_fR_h$ ,  $-C(O)OR_f$ , alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl,  $-(alkyl)(OR_f)$ ,  $-(alkyl)(NR_fR_h)$ ,  $-SR_f$ ,  $-S(O)R_f$ ,  $-S(O)_2R_f$ ,  $-OR_f$ ,  $-N(R_f)(R_h)$ ,  $-C(O)R_f$ ,  $-C(O)NR_fR_h$ ,  $-C(O)N(H)NR_fR_h$ ,  $-N(R_e)C(O)OR_f$ ,  $-N(R_e)SO_2NR_fR_h$ ,  $-N(R_e)C(O)NR_fR_h$ ,  $-alkylN(R_e)C(O)OR_f$ ,  $-alkylN(R_e)C(O)NR_fR_h$ , and  $-alkylN(R_e)C(O)NR_fR_h$ ;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

Re is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_{\rm f}$ ,  $R_{\rm g}$  and  $R_{\rm h}$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, aryl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_{\rm f}$ ,  $R_{\rm g}$  and  $R_{\rm h}$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl

-alkylS(O)(alkyl), -alkylSO<sub>2</sub>alkyl, -N(H)C(O)NH<sub>2</sub>, -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl, -C(O)NH<sub>2</sub>, -C(O)NH<sub>2</sub>, -C(O)N(H)(alkyl), and -C(O)N(alkyl)<sub>2</sub>;

alternatively, R<sub>f</sub> and R<sub>g</sub> together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ 

m is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, unsubstituted alkyl, halo or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 26. (original) The compound of claim 25 wherein R<sup>4</sup> is hydroxy.
- 27. **(original)** The compound of claim 26 wherein R<sup>1</sup> is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, cycloalkyl, formylalkyl,

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- haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ c(O)alkyl-,  $R_fR_gC$ =N- and  $R_k$ O-.
- 28. **(original)** The compound of claim 21 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:
- N-({3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4H-thieno [2,3-e][1,2,4]thiadiazin-7-yl}methyl)urea;
- 1-benzyl-4-hydroxy-3-{7-[(methoxymethoxy)methyl]-1,1-dioxido-4*H*-thieno[2,3-*e*][1,2,4] thiadiazin-3-yl}quinolin-2(1*H*)-one;
- 1-Benzyl-4-hydroxy-3-[7-(hydroxymethyl)-1,1-dioxido-4*H*-thieno[2,3-*e*][1,2,4]thiadiazin-3-yl] quinolin-2(1*H*)-one;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxylic acid 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-*N*-(2-hydroxyethyl)-4*H*-thieno[2,3-*e*] [1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-2-hydroxy-1-(aminocarbonyl) ethyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- N-(2-amino-2-oxoethyl)-3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-2-hydroxy-1-methylethyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N,N-bis(2-hydroxyethyl)-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[2-hydroxy-1-(hydroxymethyl)ethyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- $1-benzyl-4-hydroxy-3-(7-\{[(3R)-3-hydroxypyrrolidin-1-yl]carbonyl\}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl)quinolin-2(1H)-one;$
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-(3-hydroxypropyl)-4H-thieno[2,3-e] [1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(2S)-2,3-dihydroxypropyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
  - 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxymethyl)propyl]-4H-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxy-2-oxo-1,2-dih

- thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[(1S)-1-(hydroxymethyl)-2-methyl propyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[2-hydroxybutyl]-4H-thieno[2,3-e] [1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-N-[2-hydroxy-2-(4-hydroxyphenyl) ethyl]-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- 1-benzyl-3-[1,1-dioxido-7-(piperazin-1-ylcarbonyl)-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl]-4-hydroxyquinolin-2(1H)-one;
- N-[5-(aminocarbonyl)pyridin-2-yl]-3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-4H-thieno[2,3-e][1,2,4]thiadiazine-7-carboxamide 1,1-dioxide;
- [3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4*H*-thieno[2,3-*e*][1,2,4] thiadiazin-7-yl]methyl carbamate;
- [3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4*H*-thieno[2,3-*e*][1,2,4] thiadiazin-7-yl]methyl aminocarbonylcarbamate;
- 3-[7-(azidomethyl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl]-1-benzyl-4-hydroxy quinolin-2(1H)-one;
- 3-[7-(aminomethyl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl]-1-benzyl-4-hydroxy quinolin-2(1H)-one;
- $N-\{[3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4] thiadiazin-7-yl] methyl\} methanesulfonamide;$
- N-{[3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4] thiadiazin-7-yl]methyl}nicotinamide;
- N-{[3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4] thiadiazin-7-yl]methyl}morpholine-4-carboxamide;
- $N-\{[3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4] thiadiazin-7-yl]methyl\}-2-hydroxyacetamide;$
- 1-[(cyclopropylmethyl)amino]-4-hydroxy-3-{7-[(methoxymethoxy)methyl]-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl}quinolin-2(1H)-one;
- 1-[(cyclopropylmethyl)amino]-4-hydroxy-3-[7-(hydroxymethyl)-1,1-dioxido-4H-thieno[2,3-e] [1,2,4]thiadiazin-3-yl]quinolin-2(1H)-one;
- N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]methanesulfonamide;

N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]ethanesulfonamide;

N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]propane-1-sulfonamide;

N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]propane-2-sulfonamide;

N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]benzenesulfonamide; and

N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]-1-phenylmethanesulfonamide.

29. (original) The compound of claim 20 wherein R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached form a pyridyl ring.

30. (original) The compound of claim 1 of formula (VIa)

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or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, alkynyl, aryl, arylalkenyl, arylalkyl, arylsulfanylalkyl, arylsulfonylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl) alkenyl, (cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkoxyalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ NRcalkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_a$ 

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a \ and \ R_b, \ at \ each \ occurrence, \ are \ independently \ selected \ from \ the \ group \ consisting \ of \ hydrogen, \ alkenyl, \ alkyl, \ alkylsulfanylalkyl, \ arylalkenyl, \ arylalkyl, \ cycloalkyl, \ cycloalkyl, \ cycloalkyl, \ cycloalkyl, \ cycloalkyl, \ heteroarylalkyl, \ haloalkyl, \ heteroaryl, \ heteroarylalkenyl, \ heteroarylalkyl, \ heterocycle, \ heterocyclealkenyl, \ heterocyclealkyl, \ hydroxyalkylcarbonyl, \ nitroalkyl, \ R_cR_dN-, R_kO-. R_kOalkyl-, R_cR_dNalkyl-, R_cR_dNC(O)alkyl-, R_cSO_2-, \ R_cSO_2alkyl-, R_cC(O)-, R_cC(O)alkyl-, R_cOC(O)-, R_cOC(O)alkyl-, R_cR_dNalkylC(O)-, R_cR_dNC(O)-, \ R_cR_dNC(O)N(R_e)alkyl-, \ wherein \ R_a \ and \ R_b \ are \ substituted \ with \ 0, \ 1 \ or \ 2 \ substituents \ selected \ from \ the \ group \ consisting \ of \ alkyl, \ alkenyl, \ alkynyl, \ oxo, \ halo, \ cyano, \ nitro, \ haloalkyl, \ haloalkoxy, \ aryl, \ heteroaryl, \ heterocycle, \ arylalkyl, \ heteroarylalkyl, \ alkoxyalkoxyalkyl, \ -(alkyl)(OR_c), \ -(alkyl)(NR_cR_d), \ -SR_c, \ -S(O)R_c, \ -S(O)_2R_c, \ -OR_c, \ -N(R_c)(R_d), \ -C(O)R_c, \ -C(O)OR_c \ and \ -C(O)NR_cR_d;$ 

alternatively, R<sub>a</sub> and R<sub>b</sub>, together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,

 $\label{eq:control_equation} $$ haloalkoxy, aryl, heteroaryla, heteroarylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR_c), -(alkyl)(NR_cR_d), -alkylSO_2NR_cR_d, -alkylC(O)NR_cR_d, -SR_c, -S(O)R_c, -S(O)_2R_c, -OR_c, -N(R_c)(R_d), -C(O)R_c, -C(O)OR_c and -C(O)NR_cR_d;$ 

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively, R<sub>f</sub> and R<sub>g</sub> together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each

of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, –OH, -O(alkyl), -NH<sub>2</sub>, -N(H)(alkyl), -N(alkyl)<sub>2</sub>, -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl, -alkylNH<sub>2</sub>, -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl), -alkylSO<sub>2</sub>alkyl, -alkylN(alkyl)<sub>2</sub>, -N(H)C(O)NH<sub>2</sub>, -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl, -C(O)NH<sub>2</sub>, -C(O)NH<sub>2</sub>, -C(O)N(H)(alkyl), and -C(O)N(alkyl)<sub>2</sub>;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSO_2$ -,  $R_aSolkyl$ -,  $R_a(O)$ -,  $R_aSO_2$ alkyl-,  $R_aOC(O)$ -,  $R_aOC(O)$ -,  $R_aC(O)$ -,  $R_aC(O)$ -, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $NR_cR_d$ ), - $SR_c$ , - $S(O)R_c$ , - $S(O)_2R_c$ , - $OR_c$ , - $N(R_c)(R_d)$ , - $C(O)R_c$ , - $C(O)OR_c$  and - $C(O)NR_cR_d$ ; and

m is 0, 1, 2, 3, or 4;

with the proviso that  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroarylalkenyl, heteroarylalkenyl, heterocyclealkyl, heterocyclealkyl, heterocyclealkyl,

- 31. (original) The compound of claim 30 wherein R<sup>4</sup> is hydroxy.
- 32. **(original)** The compound of claim 31 wherein  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.

# 33. (original) The compound of claim 1 of formula (VIb)

$$\begin{array}{c|c} & & & & \\ & &$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, cycloalkyl, arylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl) alkyl, formylalkyl, haloalkoxyalkyl, haloalkoxyalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bNalkyl$ -,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ ONR $_c$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR $_c$ ), -(alkyl)(NR $_c$ R $_e$ ), -SR $_c$ , -S(O)R $_c$ , -S(O) $_2$ R $_c$ , -OR $_c$ , -N(R $_c$ )(R $_e$ ), -C(O)R $_c$ , -C(O)OR $_c$  and -C(O)NR $_c$ R $_e$ ;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -,  $R_aR_bN$ 

R<sup>6</sup> is independently selected at each occurrence from the group consisting of alkyl, alkenyl,

alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), wherein each  $OR_k$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $OR_a$ ,

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)- $R_c$ , -S(O)- $R_c$ , -O( $R_c$ , -O( $R_c$ ), -C(O)- $R_c$ , -C(O)OR, and -C(O)NR,  $R_c$ , -S( $R_c$ )-S( $R_c$ , -S( $R_c$ )- $R_c$ , -O( $R_c$ , -N( $R_c$ )( $R_c$ ), -C( $R_c$ )-C( $R_c$ , -C( $R_c$ )-C( $R_c$ 

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -alkylN(R<sub>e</sub>)C(O)OR<sub>f</sub>, -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the

heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_{\rm f}$ ,  $R_{\rm g}$  and  $R_{\rm h}$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_{\rm f}$ ,  $R_{\rm g}$  and  $R_{\rm h}$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)alkyl,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ -,

-C(O)NR<sub>c</sub>R<sub>d</sub>; and

m is 0, 1, 2, 3, or 4;

with the proviso that when  $R^4$  is hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, unsubstituted alkyl, halo or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 34. (original) The compound of claim 33 wherein R<sup>4</sup> is hydroxy.
- 35. **(original)** The compound of claim 34 wherein  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.
- 36. **(original)** The compound of claim 29 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:

1-butyl-4-hydroxy-3- $\{7-[(methoxymethoxy)methyl]-1,1-dioxido-4H-thieno[2,3-e][1,2,4]$ thiadiazin-3-yl $\}$ -1,8-naphthyridin-2(1H)-one;

1-butyl-4-hydroxy-3-[7-(hydroxymethyl)-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl]-1,8-naphthyridin-2(1H)-one;

methyl 3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydro-1,8-naphthyridin-3-yl)-4*H*-thieno[2,3-*e*][1,2,4] thiadiazine-7-carboxylate 1,1-dioxide;

4-hydroxy-3- $\{7-[(methoxymethoxy)methyl]-1,1-dioxido-4$ *H*-thieno[2,3-*e* $][1,2,4]thiadiazin-3-yl}-1-(3-methylbutyl)-1,8-naphthyridin-2(1$ *H*)-one; and

4-hydroxy-3-[7-(hydroxymethyl)-1,1-dioxido- 4H-thieno[2,3-e][1,2,4]thiadiazin-3-yl]-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one.

37. (original) The compound of claim 19 wherein A is pyridyl.

# 38. (original) The compound of claim 1 of formula (VII)

$$\mathbb{R}^{4} \qquad \mathbb{N} \qquad \mathbb{N$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl)alkenyl, (cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkoxyalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -, R

R<sup>6</sup> is independently selected at each occurrence from the group consisting of alkyl, alkenyl,

alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), - $OR_k$ , - $OR_k$ , - $OR_k$ , - $OR_k$ ), wherein each  $OR_k$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $OR_a$ ,

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cC(O)$ -,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)- $R_c$ , -S(O)- $R_c$ , -O( $R_c$ , -O( $R_c$ ), -C(O)- $R_c$ , -C(O)OR, and -C(O)NR,  $R_c$ , -S( $R_c$ )-S( $R_c$ , -S( $R_c$ )- $R_c$ , -O( $R_c$ , -N( $R_c$ )( $R_c$ ), -C( $R_c$ )-C( $R_c$ , -C( $R_c$ )-C( $R_c$ 

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -alkylN(R<sub>e</sub>)C(O)OR<sub>f</sub>, -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the

heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively, R<sub>f</sub> and R<sub>g</sub> together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSol_2$ -,

-C(O)NR<sub>c</sub>R<sub>d</sub>; m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3 or 4;

with the proviso that when  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_kOC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl.

- 39. (original) The compound of claim 38 wherein R<sup>4</sup> is hydroxy.
- 40. **(original)** The compound of claim 39 wherein  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.
- 41. (original) The compound of claim 37 wherein  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached, form a pyridyl ring.
  - 42. (original) The compound of claim 41 wherein R<sup>4</sup> is hydroxy.
- 43. **(original)** The compound of claim 42 whererin  $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkynyl, arylalkenyl, arylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkenyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -.

# 44. (original) The compound of claim 1 having formula (I),

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

A is a monocyclic or bicyclic ring selected from the group consisting of aryl, cycloalkyl, cycloalkenyl, heteroaryl and heterocycle;

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl)alkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bN$ C(O)alkyl-,  $R_aR_bN$ C(O)Oalkyl-,  $R_aR_bN$ C(O)NRcalkyl-,  $R_fR_gC$ =N- and  $R_k$ O-, wherein  $R^1$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^2$  and  $R^3$  are independently selected from the group consisting of hydrogen, alkenyl, alkynyl, alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN_-$ ,  $N_3$ -,  $R_eS_-$ , wherein  $R^4$  is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

R<sup>5</sup> is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl,

nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)- $R_c$ , -S(O)- $R_c$ , -OR $_c$ , -OR $_c$ , -N( $R_c$ )( $R_c$ ), -C(O)OR $_c$ , and -C(O)NR $_c$ Rd;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

Re is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSalkyl$ -,  $R_a(O)Salkyl$ -,  $R_aSO_2$ alkyl-,  $R_aOC(O)$ -,  $R_aOC(O)$ -,  $R_aOC(O)$ -,  $R_aC(O)$ -,  $R_aC(O)$ -, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro,

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 $\label{eq:control_equation} $$ haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR_c), -(alkyl)(NR_cR_d), -SR_c, -S(O)_2R_c, -S(O)_2R_c, -OR_c, -N(R_c)(R_d), -C(O)R_c, -C(O)OR_c and -C(O)NR_cR_d; and -$ 

n is 0, 1, 2, 3, or 4.

45. **(original)** The compound of claim 44 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:

1-benzyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-2(1H)-pyridinone;

1-benzyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-5,6-dimethyl-2(1H)-pyridinone;

1-benzyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-6-methyl-5-phenyl-2(1H)-pyridinone;

3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-5,6-dimethyl-1-(3-methylbutyl)-2(1H)-pyridinone;

3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1-(2-ethylbutyl)-4-hydroxy-5,6-dimethyl-2(1H)-pyridinone;

1-benzyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-6-phenyl-2(1H)-pyridinone;

1,5-dibenzyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-4-hydroxy-6-methyl-2(1H)-pyridinone;

3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-1-(2-ethylbutyl)-4-hydroxy-6-methyl-5-phenyl-2(1H)-pyridinone;

1-butyl-3-(1,1-dioxido-4H-1,2,4-benzothiadiazin-3-yl)-2(1H)-pyridinone;

N-{3-[4-hydroxy-1-(3-methylbutyl)-2-oxo-1,2-dihydropyridin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}methanesulfonamide;

N-[3-(1-benzyl-4-hydroxy-2-oxo-1,2-dihydropyridin-3-yl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl] methanesulfonamide;

N-[3-(4-hydroxy-2-oxo-1,2-dihydro-3-pyridinyl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl] methanesulfonamide;

*N*-[3-(4-hydroxy-1-isopentyl-5,6-dimethyl-2-oxo-1,2-dihydro-3-pyridinyl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]methanesulfonamide;

benzyl 3-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro-3-pyridinyl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]diazathiane-1-carboxylate 2,2-dioxide;

*N*-[3-(4-hydroxy-1-isopentyl-2-oxo-1,2-dihydro-3-pyridinyl)-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl]sulfamide;

- *N*-{3-[1-(cyclobutylmethyl)-4-hydroxy-2-oxo-1,2-dihydro-3-pyridinyl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl}methanesulfonamide;
- *N*-{3-[5-bromo-1-(cyclobutylmethyl)-4-hydroxy-2-oxo-1,2-dihydro-3-pyridinyl]-1,1-dioxido-4*H*-1,2,4-benzothiadiazin-7-yl} methanesulfonamide; and
- N-[3-(4-hydroxy-1-isopentyl-2-oxo-5-vinyl-1,2-dihydro-3-pyridinyl)-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl]methanesulfonamide.
- 46. (original) The compound of claim 1 wherin R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached, form a cycloalkyl ring.
- 47. (original) The compound of claim 1 wherin  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached, form a five- or six-membered ring selected from the group consisting of thienyl, furanyl, pyrrolyl, imidazolyl, oxazolyl, thiazolyl, isoxazolyl, isothiazolyl, pyrazolyl, oxadiazolyl, triazolyl, thiadiazolyl, tetrazolyl, phenyl, pyridyl, pyridazinyl and pyrimidinyl; wherein said ring is optionally substituted with  $(R^6)_m$ ; wherein

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ; and m is 0, 1, 2, 3 or 4.

- 48. (original) The compound of claim 47 wherein R<sup>4</sup> is hydroxy.
- 49. **(original)** The compound of claim 1 wherein  $R^4$  is hydroxy, halo, -NH<sub>2</sub>,-NH(alkyl), -N(alkyl)<sub>2</sub>, -N(H)NH<sub>2</sub>, -N<sub>3</sub>, -N(H)(hydroxyalkyl), or  $R_cS$ -.
- 50. **(original)** The compound of claim 1 wherein A is a bicyclic ring selected from the group consisting of heterocycle and heteroaryl.
- 51. **(original)** The compound of claim 50 wherein A is selected from the group consisting of naphthyl, indolizinyl, indolyl, isoindolyl, benzofuranyl, benzothienyl, indazolyl, benzimidazolyl, benzothiazolyl, benzosazolyl, benzosazolyl, benzothiadiazolyl, quinolinyl, isoquinolinyl, quinazolinyl, quinoxalinyl and naphthyridinyl, cinnolinyl and pteridinyl.

# 52. (original) The compound of claim 1 of formula (VIII)

$$\begin{array}{c|c}
R^4 & N & X \\
R^3 & N & N \\
R^2 & N & N \\
R & N & N \\
N & N & N \\
N$$

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

X is NH, N(alkyl), O or S.

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, cycloalkyl, arylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl) alkyl, formylalkyl, haloalkoxyalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bN$ C(O)alkyl-,  $R_aR_bN$ C(O)Oalkyl-,  $R_iR_g$ C=N- and  $R_k$ O-, wherein  $R^1$  is substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(ORc), -(alkyl)(NRcRe), -SRc, -S(O)Rc, -S(O)2Rc, -ORc, -N(Rc)(Re), -C(O)Rc, -C(O)ORc and -C(O)NRcRe;

 $R^2$  and  $R^3$  are independently selected from the group consisting of hydrogen, alkenyl, alkynyl, alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

alternatively,  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ ;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)(OR<sub>k</sub>), -(alkyl)(NR<sub>a</sub>R<sub>b</sub>), -SR<sub>a</sub>, -S(O)R<sub>a</sub>, -S(O)<sub>2</sub>R<sub>a</sub>, -OR<sub>k</sub>, -N(R<sub>a</sub>)(R<sub>b</sub>), -C(O)R<sub>a</sub>, -C(O)OR<sub>a</sub> and -C(O)NR<sub>a</sub>R<sub>b</sub>; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, -OR<sub>a</sub>, -NR<sub>a</sub>R<sub>b</sub>, -SR<sub>a</sub>, -SOR<sub>a</sub>, -SO<sub>2</sub>R<sub>a</sub>, -C(O)OR<sub>a</sub>, -C(O)NR<sub>a</sub>R<sub>b</sub> and -NC(O)R<sub>a</sub>;

 $R^7$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -,  $R_aR_$ 

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cOC(O)$ -,  $R_cOC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cR_dNC(O)$ -,  $R_cR_dNC($ 

selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -alkylN(R<sub>e</sub>)C(O)OR<sub>f</sub>, -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ ,

-alkyl-OH, -alkyl-O-alkyl, -alkylN(H)(alkyl), -alkylN(alkyl)<sub>2</sub>, -alkylS(alkyl), -alkylS(O)(alkyl), -alkylSO<sub>2</sub>alkyl, -N(H)C(O)NH<sub>2</sub>, -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl, -C(O)NH<sub>2</sub>, -C(O)N(H)(alkyl), and -C(O)N(alkyl)<sub>2</sub>;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSalkyl$ -,  $R_a(O)$ -Salkyl-,  $R_aSO_2$ alkyl-,  $R_aOC(O)$ -,  $R_aOC(O)$ -,  $R_aC(O)$ -, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR\_c), -(alkyl)(NR\_cR\_d), -SR\_c, -S(O)R\_c, -S(O)\_2R\_c, -OR\_c, -N(R\_c)(R\_d), -C(O)R\_c, -C(O)OR\_c and -C(O)NR\_cR\_d;

m is 0, 1, 2, 3, or 4; and n is 0, 1 or 2.

- 53. (original) The compound of claim 52 wherein  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached, form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ .
- 54. **(original)** The compound of claim 53 wherein R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached, form a five- or six-membered ring selected from the group consisting of phenyl, pyridyl pyridazinyl, pyrimidinyl, pyrazolyl, cyclopentyl, cyclohexyl and thienyl.

- 55. (original) The compound of claim 54 wherein R<sup>4</sup> is hydroxy.
- 56. **(original)** The compound of claim 55 or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof selected from the group consisting of:
- 3-(1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl)-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 3-[8-(chloromethyl)-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 3-{3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-[1,3] oxazolo[5,4-h][1,2,4]benzothiadiazin-8-yl}propanoic acid;
- 3-(8-{[(2-aminoethyl)amino]methyl}-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl)-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- methyl {3-[4-hydroxy-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-[1,3] oxazolo[5,4-h][1,2,4]benzothiadiazin-8-yl}acetate;
- 4-hydroxy-3-(8-{[(3R)-3-hydroxypyrrolidin-1-yl]methyl}-1,1-dioxido-4H-[1,3]oxazolo[5,4-h] [1,2,4]benzothiadiazin-3-yl)-1-(isobutylamino)quinolin-2(1H)-one;
- 3-[1,1-dioxido-8-(pyridinium-1-ylmethyl)-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-1-(isobutylamino)-2-oxo-1,2-dihydroquinolin-4-olate;
- 3-[1,1-dioxido-8-(pyrrolidin-1-ylmethyl)-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 3-[8-(3-aminophenyl)-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 3-[8-(aminomethyl)-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 4-hydroxy-3-[8-(hydroxymethyl)-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl]-1-(isobutylamino)quinolin-2(1H)-one;
- 3-{8-[(butylamino)methyl]-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4]benzothiadiazin-3-yl}-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 3-[9-(butylamino)-1,1-dioxido-4H,8H-[1,4]oxazino[2,3-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(isobutylamino)quinolin-2(1H)-one;
- 4-hydroxy-1-(3-methylbutyl)-3-(8-methyl-1,1-dioxido-4H-[1,3]oxazolo[5,4-h][1,2,4] benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;
- 3-[1,1-dioxido-8-(trifluoromethyl)-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one;

- U.S. Patent Application No. 10/699,513 Response to April 10, 2007 Office action May 10, 2007
- 4-hydroxy-3-(8-hydroxy-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl)-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one;
- 4-hydroxy-1-(3-methylbutyl)-3-(8-methyl-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4] benzothiadiazin-3-yl)-1,8-naphthyridin-2(1H)-one;
- 3-[1,1-dioxido-8-(pentafluoroethyl)-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one;
- 3-[8-(chloromethyl)-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl]-4-hydroxy-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one;
- {3-[4-hydroxy-1-(3-methylbutyl)-2-oxo-1,2-dihydro-1,8-naphthyridin-3-yl]-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-8-yl}acetonitrile;
- methyl {3-[4-hydroxy-1-(3-methylbutyl)-2-oxo-1,2-dihydro-1,8-naphthyridin-3-yl]-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-8-yl}acetate;
- 3-(9,9-dioxido-6H-[1,2,5]thiadiazolo[3,4-h][1,2,4]benzothiadiazin-7-yl)-4-hydroxy-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one;
- 3-(8-amino-1,1-dioxido-4,7-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl)-4-hydroxy-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one; and
- 4-hydroxy-3-[8-(hydroxymethyl)-1,1-dioxido-4,9-dihydroimidazo[4,5-h][1,2,4]benzothiadiazin-3-yl]-1-(3-methylbutyl)-1,8-naphthyridin-2(1H)-one.
- 57. **(original)** N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl} methanesulfonamide, or a pharmaceutically acceptable salt, stereoisomer or tautomer thereof.
- 58. **(original)** N-[(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydroquinolin-3-yl}-1,1-dioxido-4H-thieno[2,3-e][1,2,4]thiadiazin-7-yl)methyl]methanesulfonamide, or a pharmaceutically acceptable salt, stereoisomer or tautomer thereof.
- 59. **(original)** N-(3-{1-[(cyclopropylmethyl)amino]-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl}-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl)methanesulfonamide, or a pharmaceutically acceptable salt, stereoisomer or tautomer thereof.
- 60. **(original)** N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}sulfamide, or a pharmaceutically acceptable salt, stereoisomer or tautomer thereof.

- 61. **(original)** N-{3-[1-(cyclobutylamino)-4-hydroxy-2-oxo-1,2-dihydro-3-quinolinyl]-1,1-dioxido-4H-1,2,4-benzothiadiazin-7-yl}-N'-methylsulfamide, or a pharmaceutically acceptable salt, stereoisomer or tautomer thereof.
- 62. **(original)** A pharmaceutical composition comprising a therapeutically effective amount of a compound or combination of compounds of any one of claims 1, 57, 58, 59, 60 and 61, and a pharmaceutically acceptable carrier.
- 63. **(original)** The pharmaceutical composition of claim 62 further comprising one or more agents selected from the group consisting of a host immune modulator and a second antiviral agent, or combination thereof.
- 64. **(original)** The pharmaceutical composition of claim 63 wherein the host immune modulator is selected from the group consisting of interferon-alpha, pegylated-interferon-alpha, interferon-beta, interferon-gamma, a cytokine, a vaccine and a vaccine comprising an antigen and an adjuvant.
- 65. **(original)** The pharmaceutical composition of claim 63 wherein the second antiviral agent inhibits replication of HCV by inhibiting host cellular functions associated with viral replication.
- 66. **(original)** The pharmaceutical composition of claim 63 wherein the second antiviral agent inhibits the replication of HCV by targeting proteins of the viral genome.
- 67. **(original)** The pharmaceutical composition of claim 62 further comprising an agent or combination of agents that treat or alleviate symptoms of HCV infection including cirrhosis and inflammation of liver.
- 68. **(original)** The pharmaceutical composition of claim 62 further comprising one or more agents that treat patients for disease caused by hepatitis B (HBV) infection.
- 69. **(original)** The pharmaceutical composition of claim 68 wherein the agent that treats patients for disease caused by hepatitis B (HBV) infection is selected from the group consisting of L-deoxythymidine, adefovir, lamivudine and tenfovir.
- 70. (original) The pharmaceutical composition of claim 62 further comprising one or more agents that treat patients for disease caused by human immunodeficiency virus (HIV) infection.

- 71. **(original)** The pharmaceutical composition of claim 70 wherein the agent that treats patients for disease caused by human immunodeficiency virus (HIV) infection is selected from the group consisting of ritonavir, lopinavir, indinavir, nelfinavir, saquinavir, amprenavir, atazanavir, tipranavir, TMC-114, fosamprenavir, zidovudine, lamivudine, didanosine, stavudine, tenofovir, zalcitabine, abacavir, efavirenz, nevirapine, delavirdine, TMC-125, L-870812, S-1360, enfuvirtide (T-20) and T-1249, or any combination thereof.
- 72. (withdrawn) A method of treating or preventing infection caused by an RNA-containing virus comprising administering to a patient in need of such treatment a pharmaceutical composition of any one of claims 62, 63, 64, 65, 66, 67, 68, 69, 70 and 71.
- 73. (withdrawn) A method of inhibiting the replication of an RNA-containing virus comprising contacting said virus with a therapeuctially effective amount of a compound or combination of compounds of any one of claims 1, 57, 58, 59, 60 and 61.
- 74. (withdrawn) A method of treating or preventing infection caused by an RNA-containing virus comprising administering to a patient in need of such treatment a therapeutically effective amount of a compound or combination of compounds of any one of claims 1, 57, 58, 59, 60 and 61.
  - 75. (withdrawn) The method of claim 72 wherein the RNA-containing virus is hepatitis C virus.

76-84. (canceled)

85. (withdrawn) A process for the preparation of a compound of formula (I)

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

A is a monocyclic or bicyclic ring selected from the group consisting of aryl, cycloalkyl, cycloalkenyl, heteroaryl and heterocycle;

R<sup>1</sup> is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl

arylalkenyl, arylalkyl, arylsulfanylalkyl, arylsulfonylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, arylsulfonylalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is independently substituted with 0, 1, 2 or 3 substituents independently\_selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR\_c), -(alkyl)(NR\_cR\_e), -SR\_c, -S(O)R\_c, -S(O)\_2R\_c, -OR\_c, -N(R\_c)(R\_e), -C(O)R\_c, -C(O)OR\_c and -C(O)NR\_cR\_e;

 $R^2$  and  $R^3$  are independently selected from the group consisting of hydrogen, alkenyl, alkynyl, alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

alternatively,  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ ;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN$ -,  $N_3$ -,  $R_eS$ -, wherein  $R^4$  is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNSO_2N(R_f)$ -,  $R_aR_bN$ 

R<sup>6</sup> is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl,

heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a \ and \ R_b, \ at each occurrence, \ are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl, <math>R_cR_dN^c$ ,  $R_kO^c$ ,  $R_kO$ 

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents

independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively,  $R_f$  and  $R_g$  together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSO_2$ -,  $R_aSol_2$ -,

m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3, or 4;

with the proviso that when A is a monocyclic ring other than

and  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -, R

and with the further proviso that when A is

and  $R^4$  is hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, unsubstituted alkyl, halo or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl; comprising:

(a) contacting a compound of formula (26)

$$R^3$$
 $R^2$ 
 $N$ 
 $R^1$ 
 $(26)$ 

with carbon disulfide and a methylating agent in the presence of a base to provide a compound of formula (27)

$$R^3$$
 $R^3$ 
 $R^2$ 
 $R^3$ 
 $R^2$ 
 $R^1$ 
 $R^3$ 
 $R^3$ 

(b) contacting the compound of formula (27) with a compound of formula (13)

$$(R^5)_n$$
 $SO_2NH_2$ 
 $NH_2$  (13).

86. (withdrawn) A process for the preparation of a compound of formula (I),

or a pharmaceutically acceptable salt form, stereoisomer or tautomer thereof, wherein:

A is a monocyclic or bicyclic ring selected from the group consisting of aryl, cycloalkyl, cycloalkenyl, heteroaryl and heterocycle;

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, cycloalkyl, haloalkoxyalkyl, cycloalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bN$ alkyl-,  $R_aR_bNC(O)$ alkyl-

R<sup>2</sup> and R<sup>3</sup> are independently selected from the group consisting of hydrogen, alkenyl, alkynyl,

alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

alternatively,  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ ;

 $R^4$  is selected from the group consisting of alkoxy, arylalkoxy, aryloxy, halo, hydroxy,  $R_aR_bN_-$ ,  $N_3$ -,  $R_eS_-$ , wherein  $R^4$  is independently substituted with 0, 1 or 2 substituents independently selected from the group consisting of halo, nitro, cyano, -OH, -NH<sub>2</sub>, and -COOH;

 $R^5$  is independently selected at each occurrence from the group consisting of alkenyl, alkoxy, alkyl, alkynyl, aryl, arylalkyl, arylcarbonyl, aryloxy, azidoalkyl, formyl, halo, haloalkyl, halocarbonyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, hydoxyalkyl, cycloalkyl, cyano, cyanoalkyl, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aR_bNalkyl$ -,  $R_a(O)SN(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -,  $R_aSO_2N(R_f)$ -,  $R_aC(O)$ -

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dN$ C(O)alkyl-,  $R_cSO_2$ -,  $R_cSO_2$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ alkyl-,  $R_cC(O)$ -,  $R_cC(O)$ -,

 $R_cR_dNC(O)Oalkyl$ -,  $R_cR_dNC(O)N(R_e)alkyl$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ ), -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)R<sub>c</sub>, -OR<sub>c</sub>, -N(O)R<sub>c</sub>, -C(O)OR<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

R<sub>f</sub>, R<sub>g</sub> and R<sub>h</sub>, at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each R<sub>f</sub>, R<sub>g</sub> and R<sub>h</sub> is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl,

heteroarylalkyl, –OH, -O(alkyl), -NH<sub>2</sub>, -N(H)(alkyl), -N(alkyl)<sub>2</sub>, -S(alkyl), -S(O)(alkyl), -SO<sub>2</sub>alkyl, -alkyl-OH, -alkyl-O-alkyl, -alkylN(H)(alkyl), -alkylN(alkyl)<sub>2</sub>, -alkylS(alkyl), -alkylS(O)(alkyl), -alkylSO<sub>2</sub>alkyl, -N(H)C(O)NH<sub>2</sub>, -C(O)OH, -C(O)O(alkyl), -C(O)alkyl, -C(O)NH<sub>2</sub>, -C(O)NH<sub>2</sub>, -C(O)N(H)(alkyl), and -C(O)N(alkyl)<sub>2</sub>;

alternatively, R<sub>f</sub> and R<sub>g</sub> together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl), -C(O)Alkyl,  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_b$ Nalkyl-,  $R_a$ Oalkyl-,  $R_a$ Oalkyl-,  $R_aR_b$ NC(O)-,  $R_aR_b$ NC(O)alkyl,  $R_aS$ -,  $R_aS$ (O)-,  $R_aSO_2$ -,  $R_aS$ alkyl-,  $R_a$ (O)Salkyl-,  $R_aSO_2$ alkyl-,  $R_aOC$ (O)-,  $R_aOC$ (O)alkyl-,  $R_aC$ (O)-,  $R_aC$ (O)alkyl-, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR\_c), -(alkyl)(NR\_cR\_d), -SR\_c, -S(O)R\_c, -S(O)\_2R\_c, -OR\_c, -N(R\_c)(R\_d), -C(O)R\_c, -C(O)OR\_c and -C(O)NR\_cR\_d;

m is 0, 1, 2, 3, or 4; and n is 0, 1, 2, 3, or 4;

with the proviso that when A is a monocyclic ring other than

and  $R^4$  is alkoxy, aryloxy, hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, alkenyl, alkoxy, alkyl, alkynyl, aryl, halo, heteroaryl, heterocyclealkyl, cycloalkyl, cyano, nitro,  $R_aR_bN$ -,  $R_aC(O)$ -,  $R_aS$ -,  $R_a(O)S$ -,  $R_a(O)_2S$ -,  $R_aSO_2N(R_f)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNSO_2$ - or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,

 $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl;

and with the further proviso that when A is

and  $R^4$  is hydroxy or  $R_eS$ -, and  $R^5$  is hydrogen, unsubstituted alkyl, halo or  $-OR_k$ , and  $R^6$  is hydrogen, alkyl, alkenyl, alkynyl, halo, cyano, nitro, aryl, heteroaryl, heterocyclealkyl,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ , then  $R^1$  is not hydrogen, alkenyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, cycloalkyl, (cycloalkyl)alkenyl, (cycloalkyl)alkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocyclealkenyl or heterocyclealkyl; comprising:

(a) contacting a compound of formula (26)

$$R^3$$
 $R^2$ 
 $N$ 
 $R^1$ 
 $(26)$ 

with tris(methylthio)methyl methyl sulfate in the presence of a base to provide a compound of formula (27)

$$R^3$$
 $R^3$ 
 $R^2$ 
 $R^1$ 
 $R^1$ 
 $R^1$ 
 $R^3$ 
 $R^3$ 

(b) contacting the compound of formula (27) with a compound of formula (13)

$$(R^5)_n$$
 $SO_2NH_2$ 
 $NH_2$ 
(13).

# 87. (withdrawn) A compound having formula (IX),

$$R^3$$
 $R^3$ 
 $R^{11}$ 
 $R^{11}$ 
 $R^{12}$ 
 $R^{12}$ 
 $R^{12}$ 
 $R^{12}$ 
 $R^{12}$ 
 $R^{12}$ 

or a pharmaceutically acceptable salt form, tautomer or stereoisomer thereof, wherein

 $R^1$  is selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxyarbonylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfanylalkyl, alkylsulfonylalkyl, alkylsulfonylalkyl, alkylsulfonylalkyl, arylsulfanylalkyl, arylsulfanylalkyl, carboxyalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkyl) alkyl, cycloalkyl) alkyl, formylalkyl, haloalkoxyalkyl, haloalkyl, heteroarylalkenyl, heteroarylalkyl, heteroarylsulfonylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkyl, nitroalkyl,  $R_aR_bN$ -,  $R_aR_bNalkyl$ -,  $R_aR_bNC(O)$ alkyl-,  $R_aR_bNC(O)$ Oalkyl-,  $R_aR_bNC(O)$ NR $_c$ alkyl-,  $R_fR_gC$ =N- and  $R_kO$ -, wherein  $R^1$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR $_c$ ), -(alkyl)(NR $_c$ R $_e$ ), -SR $_c$ , -S(O)R $_c$ , -S(O) $_2$ R $_c$ , -OR $_c$ , -N(R $_c$ )(R $_e$ ), -C(O)R $_c$ , -C(O)OR $_c$  and -C(O)NR $_c$ R $_e$ ;

 $R^2$  and  $R^3$  are independently selected from the group consisting of hydrogen, alkenyl, alkynyl, alkoxyalkyl, alkoxycarbonyl, alkyl, aryl, arylalkyl, heteroaryl, heterocycle, heteroarylalkyl, cyano, halo,  $-N(R_a)(R_b)$ ,  $R_aR_bNC(O)$ -,  $-SR_a$ ,  $-S(O)_2R_a$  and  $R_aC(O)$ -; wherein  $R^2$  and  $R^3$  are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of  $R_a$ , alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl,  $-(alkyl)(OR_k)$ ,  $-(alkyl)(NR_aR_b)$ ,  $-SR_a$ ,  $-S(O)R_a$ ,  $-S(O)_2R_a$ ,  $-OR_k$ ,  $-N(R_a)(R_b)$ ,  $-C(O)R_a$ ,  $-C(O)OR_a$  and  $-C(O)NR_aR_b$ ;

alternatively,  $R^2$  and  $R^3$ , together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, wherein said aryl, cycloalkyl, heteroaryl and heterocycle is optionally substituted with  $(R^6)_m$ ;

 $R^6$  is independently selected at each occurrence from the group consisting of alkyl, alkenyl, alkynyl, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, heterocyclealkyl, -(alkyl)( $OR_k$ ), -(alkyl)( $NR_aR_b$ ), - $SR_a$ , - $S(O)R_a$ , - $S(O)_2R_a$ , - $OR_k$ , - $N(R_a)(R_b)$ , - $C(O)R_a$ , - $C(O)OR_a$  and - $C(O)NR_aR_b$ ; wherein each  $R^6$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, haloalkyl, cyano, nitro, - $OR_a$ , - $NR_aR_b$ , - $SR_a$ , - $SOR_a$ , - $SO_2R_a$ , - $C(O)OR_a$ , - $C(O)NR_aR_b$  and - $NC(O)R_a$ ;

 $R_a$  and  $R_b$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkenyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, nitroalkyl,  $R_cR_dN$ -,  $R_kO$ -.  $R_kO$ alkyl-,  $R_cR_dN$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cR_dNC(O)$ alkyl-,  $R_cC(O)$ -,  $R_cR_dNC(O)$ -, wherein  $R_a$  and  $R_b$  are substituted with 0, 1 or 2 substituents selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)( $OR_c$ ), -(alkyl)( $OR_c$ , -S(O)-,  $OR_c$ , -S(O)-,  $OR_c$ , -OR, -N( $OR_c$ ), -C( $OR_c$ , -C( $OR_c$ , and -C( $OR_c$ )-R, -(alkyl)( $OR_c$ ), -C( $OR_c$ , -C( $OR_c$ )-

alternatively,  $R_a$  and  $R_b$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>c</sub>), -(alkyl)(NR<sub>c</sub>R<sub>d</sub>), -alkylSO<sub>2</sub>NR<sub>c</sub>R<sub>d</sub>, -alkylC(O)NR<sub>c</sub>R<sub>d</sub>, -SR<sub>c</sub>, -S(O)R<sub>c</sub>, -S(O)<sub>2</sub>R<sub>c</sub>, -OR<sub>c</sub>, -N(R<sub>c</sub>)(R<sub>d</sub>), -C(O)R<sub>c</sub>, -C(O)OR<sub>c</sub> and -C(O)NR<sub>c</sub>R<sub>d</sub>;

 $R_c$  and  $R_d$ , at each occurrence, are independently selected from the group consisting of hydrogen, -NR<sub>f</sub>R<sub>h</sub>, -OR<sub>f</sub>, -CO(R<sub>f</sub>), -SR<sub>f</sub>, -SO<sub>2</sub>R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -C(O)OR<sub>f</sub>, alkenyl, alkyl, alkynyl, cycloalkyl, cycloalkyl, cycloalkenyl, cycloalkenylalkyl, aryl, arylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle and heterocyclealkyl; wherein each  $R_c$  and  $R_d$  is independently substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)NR<sub>f</sub>R<sub>h</sub>, -C(O)N(H)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)OR<sub>f</sub>, -N(R<sub>e</sub>)SO<sub>2</sub>NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, -N(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>, and -alkylN(R<sub>e</sub>)C(O)NR<sub>f</sub>R<sub>h</sub>;

alternatively,  $R_c$  and  $R_d$ , together with the nitrogen atom to which they are attached form a three-to six-membered ring selected from the group consisting of heteroaryl and heterocycle, wherein the heteroaryl and heterocycle are independently substituted with 0, 1, 2 or 3 substituents independentlyselected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR<sub>f</sub>), -(alkyl)(NR<sub>f</sub>R<sub>h</sub>), -SR<sub>f</sub>, -S(O)R<sub>f</sub>, -S(O)<sub>2</sub>R<sub>f</sub>, -OR<sub>f</sub>, -N(R<sub>f</sub>)(R<sub>h</sub>), -C(O)R<sub>f</sub>, -C(O)OR<sub>f</sub> and -C(O)NR<sub>f</sub>R<sub>h</sub>;

R<sub>e</sub> is selected from the group consisting of hydrogen, alkenyl, alkyl and cycloalkyl;

 $R_f$ ,  $R_g$  and  $R_h$ , at each occurrence, are independently selected from the group consisting of hydrogen, alkyl, alkenyl, arylalkyl, cycloalkyl, cycloalkylalkyl, cycloalkenyl, cycloalkenylalkyl, heterocycle, heterocyclealkyl, heteroaryl and heteroarylalkyl; wherein each  $R_f$ ,  $R_g$  and  $R_h$  is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl), -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(O)(alkyl),  $-SO_2alkyl$ , -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl),  $-alkylN(alkyl)_2$ , -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

alternatively, R<sub>f</sub> and R<sub>g</sub> together with the carbon atom to which they are attached form a three- to seven-membered ring selected from the group consisting of cycloalkyl, cycloalkenyl and heterocycle;

alternatively,  $R_f$  and  $R_h$  together with the nitrogen atom to which they are attached form a three-to seven-membered ring selected from the group consisting of heterocycle and heteroaryl; wherein each of the heterocycle and heteroaryl is independently substituted with 0, 1, 2 or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, cyano, halo, oxo, nitro, aryl, arylalkyl, cycloalkyl, cycloalkenyl, heterocycle, heteroaryl, heteroarylalkyl, -OH, -O(alkyl),  $-NH_2$ , -N(H)(alkyl),  $-N(alkyl)_2$ , -S(alkyl), -S(alkyl), -S(O)(alkyl), -alkyl-OH, -alkyl-O-alkyl,  $-alkylNH_2$ , -alkylN(H)(alkyl), -alkylS(alkyl), -alkylS(O)(alkyl),  $-alkylSO_2alkyl$ ,  $-alkylN(alkyl)_2$ ,  $-N(H)C(O)NH_2$ , -C(O)OH, -C(O)O(alkyl),  $-C(O)NH_2$ ,  $-C(O)NH_2$ , -C(O)N(H)(alkyl), and  $-C(O)N(alkyl)_2$ ;

 $R_k$  is selected from the group consisting of hydrogen, alkenyl, alkyl, aryl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkyl, heterocycle, heterocyclealkyl, nitroalkyl,  $R_aR_bNalkyl$ -,  $R_aOalkyl$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aR_bNC(O)$ -,  $R_aSO_2$ -,  $R_aSalkyl$ -,  $R_a(O)$ -Salkyl-,  $R_aSO_2$ alkyl-,  $R_aOC(O)$ -,  $R_aOC(O)$ -,  $R_aC(O)$ -, wherein each  $R_k$  is substituted with 0, 1, 2, or 3 substituents independently selected from the group consisting of alkyl, alkenyl, alkynyl, oxo, halo, cyano, nitro, haloalkyl, haloalkoxy, aryl, heteroaryl, heterocycle, arylalkyl, heteroarylalkyl, alkoxyalkoxyalkyl, -(alkyl)(OR\_c), -(alkyl)(NR\_cR\_d), -SR\_c, -S(O)R\_c, -S(O)\_2R\_c, -OR\_c, -N(R\_c)(R\_d), -C(O)R\_c, -C(O)OR\_c and -C(O)NR\_cR\_d;

m is 0, 1, 2, 3, or 4; and

R<sup>11</sup> and R<sup>12</sup> are independently selected from the group consisting of alkyl, alkenyl and alkynyl.

88. **(withdrawn)** The compound of claim 87, or a pharmaceutically acceptable salt form, tautomer or stereoisomer thereof selected from the group consisting of:

- 1-benzyl-3-(bis(methylthio)methylene)-1H-quinoline-2,4(1*H*,3*H*)-dione;
- 3-[bis(methylthio)methylene]-1-butyl-1,8-naphthyridine-2,4(1*H*,3*H*)-dione;
- 3-[bis(methylthio)methylene]-1-(1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)quinoline-2,4(1H,3H)-dione;
  - 3-[bis(methylthio)methylene]-1-[(cyclopropylmethyl)amino]quinoline-2,4(1H,3H)-dione;
  - 3-[bis(methylthio)methylene]-1-(3-methylbutyl)pyridine-2,4(1*H*,3*H*)-dione;
  - 1-benzyl-3-[bis(methylthio)methylene]pyridine-2,4(1*H*,3*H*)-dione;
  - 3-[bis(methylthio)methylene]-1-(cyclobutylamino)quinoline-2,4(1H,3H)-dione; and
  - 3-[bis(methylthio)methylene]-1-(cyclobutylmethyl)pyridine-2,4(1*H*,3*H*)- dione.
- 89. (previously presented) The compound, salt, stereoisomer or tautomer of claim 1, wherein said compound comprises a core ring selected from Table 1, and each Y<sup>1</sup>, Y<sup>2</sup>, Y<sup>3</sup> or R<sup>1</sup> on said core ring is independently selected at each occurrence from Table 3, Table 3, Table 4 or Table 2, respectively.
- 90. (previously presented) The compound, salt, stereoisomer or tautomer of claim 1, wherein R<sup>1</sup> is R<sub>a</sub>R<sub>b</sub>N-, and R<sup>2</sup> and R<sup>3</sup>, together with the carbon atoms to which they are attached form a five- or six-membered ring selected from the group consisting of aryl, cycloalkyl, heteroaryl and heterocycle, and wherein R<sub>a</sub> and R<sub>b</sub>, at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, and nitroalkyl.
- 91. (previously presented) The compound, salt, stereoisomer or tautomer of claim 25, wherein R<sup>5</sup> is R<sub>a</sub>SO<sub>2</sub>N(R<sub>f</sub>)alkyl-, and R<sub>a</sub> and R<sub>b</sub>, at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkyl, formylalkyl, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, and nitroalkyl.
- 92. (**previously presented**) The compound, salt, stereoisomer or tautomer of claim 25, wherein R<sup>1</sup> is R<sub>a</sub>R<sub>b</sub>N-, and R<sub>a</sub> and R<sub>b</sub>, at each occurrence, are independently selected from the group consisting of hydrogen, alkenyl, alkyl, alkylsulfanylalkyl, aryl, arylalkenyl, arylalkyl, cyanoalkyl, cycloalkenyl, cycloalkenyl, cycloalkylalkyl, cycloalkylalkyl, haloalkyl, heteroaryl,

heteroarylalkenyl, heteroarylalkyl, heterocycle, heterocyclealkenyl, heterocyclealkyl, hydroxyalkylcarbonyl, and nitroalkyl.